

Title (en)

Folded cascode amplifier with rail-to-rail common-mode range.

Title (de)

Gefalteter Kaskodenverstärker mit über den ganzen Betriebsspannungsbereich gehenden Gleichtaktbereich.

Title (fr)

Amplificateur cascode replié à plage de mode commun courant la tension d'alimentation.

Publication

EP 0318263 A2 19890531 (EN)

Application

EP 88311077 A 19881123

Priority

US 12469487 A 19871124

Abstract (en)

A folded cascode amplifier with rail-to-rail common-mode range utilizes a fully differential input with two sets of input common source amplifier devices to allow rail-to-rail common-mode range. The first set of devices utilizes N-channel transistors (28) and (32) to provide operation in one direction and P-channel transistors (38) and (42) to allow operation in the other direction. Two common gate amplifier output legs are provided for generating a differential voltage between an output node (50) and an output node (48) in a cascode configuration. A feedback circuit is provided for maintaining node (50) at analog ground over the full common-mode range of the input voltage. The feedback circuit utilizes a current source with transistors (88) and (90) and a differentially configured set of transistors (80) and (82) to control a feedback transistor (86). The feedback transistor (86) controls the current in both of the output legs to maintain the node (50) at analog ground by receiving at one of the differential inputs the voltage on the node (50) and comparing it with analog ground on the other differential input.

IPC 1-7

H03F 3/45

IPC 8 full level

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CPC (source: EP KR US)

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Cited by

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